April 14, 1960

Dr. Jacques Monod
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28 Rue du Dr. Roux
Paris 15, France

Dear Jacques,

The arrival of André has brought us first-hand news of what goes on in Paris and I wistfully remember the pleasant weeks spent last year in your laboratory. I hope to visit you for a few days in June, after a meeting in Louvain. Will you be in Paris all the month of June?

Meanwhile, I would like to have some information and some strains, which will help with the Pl lac problem.

1. The enzyme story has not advanced very far. We have now good evidence that the early acceleration in enzyme rate formation is real and not due to changes in medium, washing of cells, etc. We know that UV doses that prevent phage multiplication only reduce very slightly the rate of enzyme formation; we are using this method to measure the relative UV cross sections of phage, z, and i regions. The effect of immunity on enzyme synthesis is more complex than it seemed to be and, as in the case of galactokinase, it probably reflects interactions between repressors.

We are preparing a modified Benzer experiment, to decide how many cells make enzyme. If it does not work, the fluorescent substrate method will be needed. Have you perfected it, or should we go ahead and try?

2. We have obtained Pl lac phages that carry the $i^+z^-y^+$ set of genes and also some that appear to carry only the y^+ region. In order to study the nature of the lac fragment, I need several mapped z^- and y^- mutants. I have 2050, 2340, and 3.00U from your collection. Could you send me some other ones? Could you include one strain that is $i^-y^-z^+$, and also one strain that is F^-, non-prototrophic, but with a lac^- gene different from the one in P678 (which behaves strangely in some crosses)?

3. Strain 3.00U behaves strangely. It appears to be z^- rather than y^-. It maps between all the other z^- and my only y^- marker. Could it be a mutant 0°?

4. Have you ever found any evidence that the z region may contain more than one cistron? There is a faint suggestion of complementation between 2.340 and 2050 (in transduction).

5. The crosses of Hfr (Pl dl) x F^-lac^- suggest that Pl dl may enter separately from the chromosome, but the results are not yet clear-cut.

We have some problems with Hfr's because not all of them can be made heterogenotes.

I hope to hear from you soon. I shall let you know whenever we have more definite data about enzyme production and transfer of Pl dl.

With many thanks and regards, also to François and to all other friends,

Cordially,

sel/na S. E. Luria